

Docket No.: 00-8006

REMARKS

Applicants' representative thanks the Examiner for the indication of allowable subject matter in the office action dated June 9, 2004. The Examiner indicated that claims 6-9 and 28, 32 are allowable. Upon entry of this amendment, claims 1-34 will be pending. Claims 1, 11, and 23 have been amended. Claim 11 was amended to recite the term --value-- as opposed to the term "valve". Claims 33 - 36 have been added.

In the Office Action, claims 1-5, 20-22 and 23-27, 29-31 were rejected under 35 USC §103(a) as being unpatentable over US Patent No. 5,987,011 to Toh ("Toh") in view of US Patent No. 6,304,556 to Haas ("Haas"). Claims 10-19 were rejected under 35 USC §103(a) as being unpatentable over Toh in view of Haas and further in view of US Patent No. 6,647,413 to Walrand et al. ("Walrand"). Applicants request consideration of the pending claims in view of the above amendments and the following remarks.

I. Claim Objections

Claim 23 was objected to because the claim contains the phrase "capable of." Applicants have amended claim 23 to address the objection. In view of the amendment, Applicants respectfully request that the objection be withdrawn.

II. Claim Rejections – 35 USC §112

Claims 1 and 23 were rejected under 35 USC §112 based on an issue with antecedent basis in each claim. In response, Applicant has not amended claim 1 because each time frame has only one beginning; thus, "the" is being used to modify time frame in the claim NOT in an antecedent context, but only as a definite article in accordance with normal grammatical usage. In other words, "a beginning of each time frame" may erroneously imply that each time frame has more than one beginning, which is not the case, and it is therefore more accurate to recite "the beginning of each time frame". However, claim 23 has been amended to recite -- capacity-- as opposed to "the capacity". In view of the explanation and the amendment, it is respectfully submitted that the rejection has been addressed.

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III. Claim Rejections (Claims 1-5, 20-22, 23-27 and 29-31) – 35 USC §103 using Toh in view of Haas

Independent claims 1 and 23 was rejected under 35 USC §103(a) as being unpatentable over Toh in view of Haas. Claims 1 and 23, as amended, recite among other limitations, a network including a capacity “to send data packets in *slots delineating time frames on the network*,” “allocating the network-wide capacity among each of the nodes...*at the beginning of a time frame and repeating the capacity allocating step at the beginning of each time frame*.” (Emphasis added) Toh does not teach or suggest sending data packets in slots delineating time frames, capacity allocation at the beginning of a time frame, or repeating capacity allocation at the beginning of each time frame. Rather, Toh teaches a data packet routing method based on an Associativity-Based Routing (ABR) method. (Col. 7, lines 52-53) According to Toh, The ABR protocol comprises three different phases, namely a Route Discovery phase, a Route Reconstruction phase and a Route Deletion phase. (Col. 7, lines 65-67) The Route Discovery phase consists of a broadcast query (BQ) and an await reply (REPLY) cycle. As such, a node desiring a route to a destination node broadcasts a BQ packet to the destination node via intermediate nodes (if present). Subsequently, a REPLY packet propagates back to the source node. When the REPLY packet reaches the source node, the route to the destination node is established. (Col. 11, lines 11-28) When a link of an established route changes due to source node, destination node, intermediate node or subnet-bridging mobile hosts migration, the Route Reconstruction phase is invoked to attempt to quickly locate an alternative valid route without resorting to a broadcast query unless necessary. (Col. 8, lines 2-5; Col. 11, lines 38-41) When the source node no longer desires the route, the route deletion phase is initiated. (Col. 8, lines 5-6) At no point within the foregoing three phases of the ABR protocol does Toh suggest or teach sending data packet in slots delineating time frames or capacity allocation at the beginning of each time frame. In fact, regarding data transmission during the Route Discovery phase, Toh merely states data transmission over a route, where packets will be forwarded from one intermediate node to another until they arrive at the destination node. (Col. 11, lines 29-31) There is no mention, teaching, or suggestion by Toh of sending data packets in slots delineating time frames on the network, allocating the network-wide capacity among each of the nodes...at the beginning of a time frame and repeating the capacity allocating step at the beginning of each time frame.

Nor does Haas, in combination with Toh, teach or suggest sending data packets in *slots delineating time frames or allocating capacity at the beginning of a time frame on the*

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network. Haas teaches a network protocol that includes a routing and a mobility management protocol. The routing protocol is a proactive-reactive hybrid routing protocol referred to as the Zone Routing Protocol (ZRP). The ZRP allows route discovery in ad-hoc networks. (Col 4, lines 47-56) The mobility management protocol is based on Mobility Reporting Centers and allows location of mobiles within a large network. (Col. 5, lines 36-39) Haas does not disclose, teach, or suggest sending data packets in *slots delineating time frames on the network* within either the routing or mobility management protocol. Accordingly, the rejection of independent claims 1 and 23 should be withdrawn and the claims allowed for at least the above reasons. Claims 2-5 and 20-22, 24-27, and 29-31 are allowable at least by reason of their dependence on the foregoing.

IV. Claim Rejections (Claims 10-19) – 35 USC §103 using Toh in view of Haas and further in view of Walrand et al.

Claims 10-19 were rejected under 35 USC 103(a) as being unpatentable over Toh in view of Haas, and further in view of Walrand et al. Applicants submit that Walrand et al. does not cure the deficiencies of Toh in view of Haas discussed above, and claims 10-19, which depend from claim 1, are in condition for allowance at least based upon their dependence from claim 1. Moreover, Walrand et al. discloses a scheme by which the performance of a network can be *monitored*. Walrand et al. further discloses a node monitor for each node. Accordingly, Walrand et al. teaches system performance measurements taken in a distributed manner, e.g., low level, mid-level, and network. (Col. 2, lines 17-59) The monitoring system of Walrand et al. does not teach or suggest: “slots delineating time frames on the network,” “allocating the network-wide capacity among each of the nodes...at the beginning of a time frame on the network,” or “repeating the capacity allocating step at the beginning of each time frame.”

Furthermore, dependent claim 11 as amended, recites among other limitations, “calculating a weighting value for each node corresponding to a representative portion of the link error adjusted rate of the node....” Toh, in view of Haas, and further in view of Walrand et al. does not disclose calculating a weighting value for each node that corresponds to a representative portion of the link error adjusted rate of the node. Walrand et al. discloses network monitoring of each node without any suggestion or teaching of a weighting value. Accordingly, dependent claims 12-14, which depend from claim 11, are patentable for at least the same reasons as dependent claim 11. Thus, for at least the foregoing reasons claims 10-19 are likewise patentable over the cited art. Accordingly, Applicants respectfully request

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that the rejection be withdrawn.

V. Newly added Claims 33 - 34 and 35 - 36

Applicants have added independent claims 33 and 34. Independent claims 33 and 34 include the limitations added in claims 28 and 32, respectively. The Examiner acknowledges that claims 28 and 32 include allowable subject matter. Additionally, independent claims 33 and 34 include the limitation of a network including a capacity "to send data packets in *slots delineating time frames* on the network." Accordingly, for at least the foregoing reasons, independent claims 33 and 34 are patentable over the cited art.

Applicants have also added independent claims 35 and 36. Independent claims 35 and 36 include the limitations of independent claims 1 and 23 with the additional limitation of slots being grouped into fixed length time frames. Applicants submit that the limitation of slots being grouped into fixed length time frames is supported by the Specification as originally filed, at least at page 15, lines 6-8. Applicants further submit that the cited references (e.g., Toh, Haas, and Walrand et al.) individually and/or in combination, do not teach or suggest slots being grouped into fixed length time frames.

As discussed above, Toh discloses a routing method for ad-hoc mobile networks. (Col. 5, lines 63-65). Toh teaches that a node desiring a route to the destination node broadcasts the broadcast query (BQ) packet which is propagated throughout the ad-hoc mobile network in search of mobile hosts which have a route to the destination node. (Col. 8, lines 16-20) The BQ packet reaching the destination contains the immediate mobile hosts addresses and their respective associativity ticks and the route relaying load, together with information on route propagation delays and hop count. (Col. 8, lines 50-57) Toh further teaches that the resulting BQ packet is "*variable in length....*" (Col. 8, lines 57-58; Emphasis added) Thus, the cited art individually or in combination does not teach or suggest slots being grouped into *fixed length* time frames. In fact, Toh's teaching of *variable length* BQ packets teaches away from *fixed length* time frames in that the information/data contained within the BQ packet, in and of itself, varies in length thereby varying the length of the BQ packet. (Fig. 6; Col. 8, lines 50-67 and Col. 7, lines 1-13) As such, slots being grouped into fixed length time frames, as recited in claims 35 and 36, would destroy and frustrate the objectives of Toh. Accordingly, Applicants respectfully submit that independent claims 35 and 36 are patentable for at least the foregoing reasons.

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CONCLUSION


In view of the above, each of the presently pending claims in this application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account 07-2347, under Order No. 00-8006 from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. § 1.136 is hereby made, the fee for which should be charged to the aforementioned account.

Respectfully submitted,

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By


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